

Features

- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Maximum Thermal Resistance: 833°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	80	V
BC846A-BC846B		50	
BC847A-BC847C		30	
Collector-Emitter Voltage	V_{CEO}	65	V
BC846A-BC846B		45	
BC847A-BC847C		30	
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	100	mA
Collector Power Dissipation	P_C	150	mW

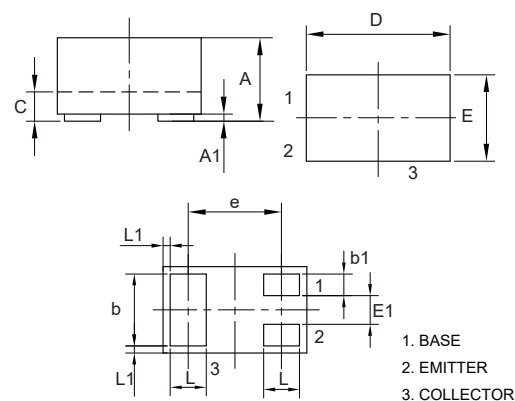
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Marking:

BC846A:1A; BC846B:1B;
BC847A:1E; BC847B:1F; BC847C:1G;
BC848A:1J; BC848B:1K; BC848C:1L;

**NPN
Plastic-Encapsulate
Transistors**

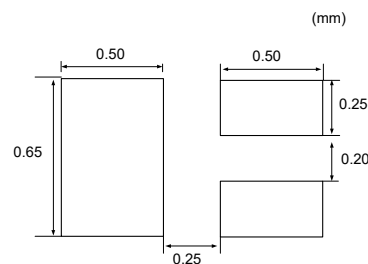
DFN1006-3



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.018	0.022	0.45	0.55	
A1	0.000	0.002	0.00	0.05	
b	0.018	0.022	0.45	0.55	
b1	0.004	0.008	0.10	0.20	
c	0.005	0.007	0.12	0.18	
D	0.037	0.042	0.95	1.075	
E	0.022	0.026	0.55	0.675	
E1	0.006	0.010	0.15	0.25	
e	0.026		0.65		TYP.
L	0.008	0.012	0.20	0.30	
L1	0.0002		0.05		TYP.

Suggested Solder Pad Layout



Electrical Characteristics @ $T_A=25^\circ\text{C}$ Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage BC846A-BC846B BC847A-BC847C BC848A-BC848C	$V_{(BR)CBO}$	80 50 30			V	$I_C=10\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage BC846A-BC846B BC847A-BC847C BC848A-BC848C	$V_{(BR)CEO}$	65 45 30			V	$I_C=10\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage BC846A-BC846B BC847A-BC847C BC848A-BC848C	$V_{(BR)EBO}$	6 6 5			V	$I_E=10\mu\text{A}, I_C=0$
Collector Cut-off Current	I_{CBO}			15	nA	$V_{CB}=30\text{V}, I_E=0$
Emitter Cutoff Current	I_{EBO}			100	nA	$V_{EB}=5\text{V}, I_C=0$
Emitter Cutoff Current	I_{CEO}			1	mA	$V_{CE}=30\text{V}, I_B=0$
DC Current Gain BC846A/BC847A/BC848A BC846B/BC847B/BC848B BC847C/BC848C	$h_{FE(1)}$		110 250 480			$V_{CE}=5\text{V}, I_C=10\mu\text{A}$
DC Current Gain BC846A/BC847A/BC848A BC846B/BC847B/BC848B BC847C/BC848C	$h_{FE(2)}$	110 200 420		220 450 800		$V_{CE}=5\text{V}, I_C=2\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.09 0.2	0.3 0.6	V	$I_C=10\text{mA}, I_B=0.5\text{mA}$ $I_C=100\text{mA}, I_B=5\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.7 0.9	0.9 1.1	V	$I_C=10\text{mA}, I_B=0.5\text{mA}$ $I_C=100\text{mA}, I_B=5\text{mA}$
Base-Emitter On Voltage	$V_{BE(on)}$	0.58	0.66	0.7 0.77	V	$V_{CE}=5\text{V}, I_C=2\text{mA}$ $V_{CE}=5\text{V}, I_C=10\text{mA}$
Transition Frequency	f_T	100			MHZ	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$

Curve Characteristics

Fig. 1 - Static Characteristics

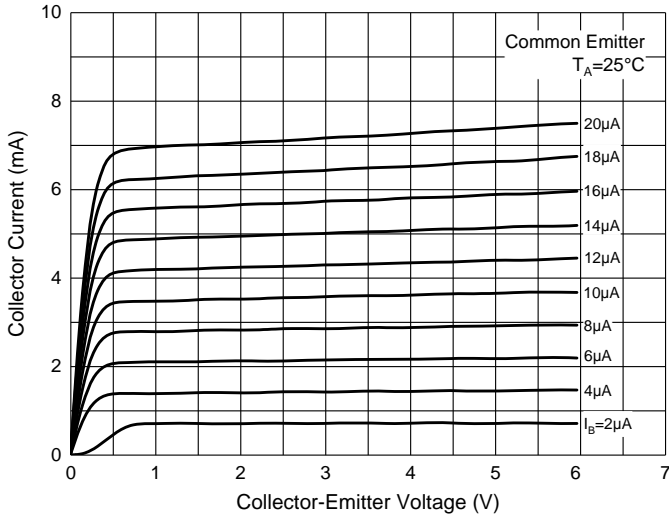


Fig. 2 - DC Current Gain Characteristics

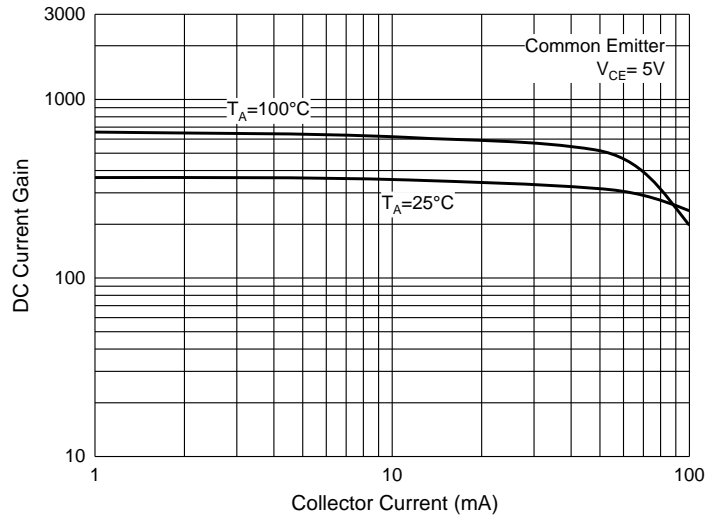


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

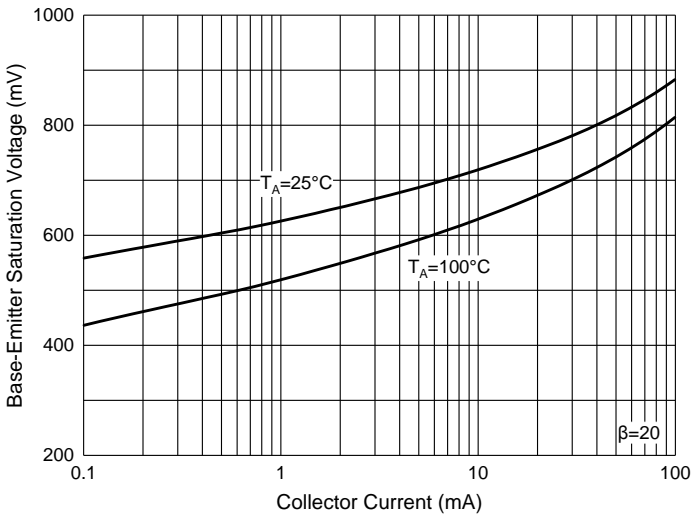


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

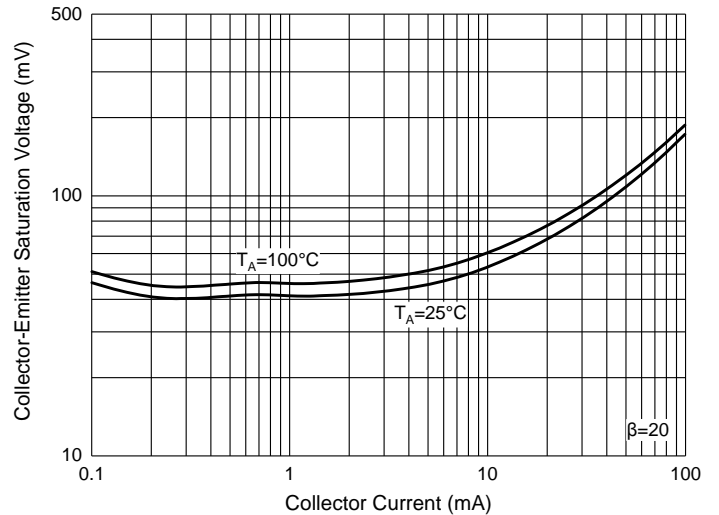


Fig. 5 - Base-Emitter Voltage Characteristics

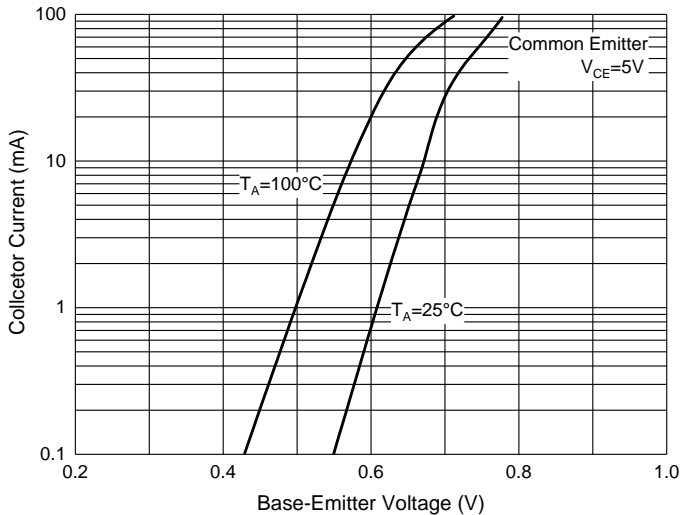
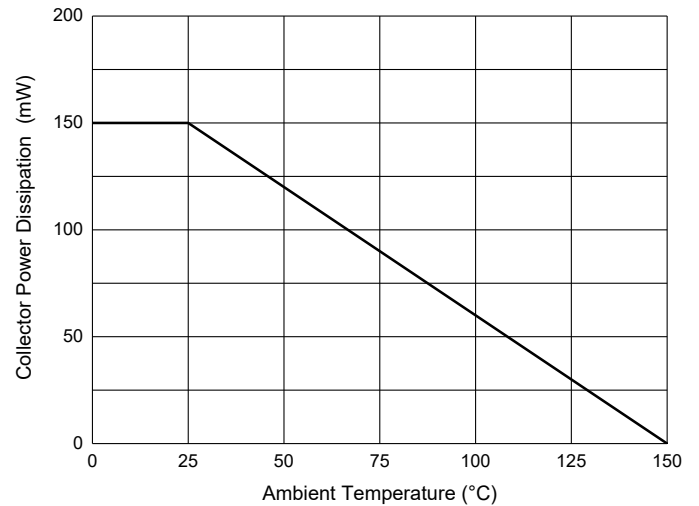


Fig. 6 - Collector Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 10Kpcs/Reel

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